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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,750	03/22/2004	Todd Peterson	11032-044-999	2424
20583	7590	07/05/2006	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			PRITCHETT, JOSHUA L	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,750

Applicant(s)

PETERSON ET AL.

Examiner

Joshua L. Pritchett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14-16, 18, 19 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14-16, 18, 19 and 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Request for Continued Examination and Amendment filed March 20, 2006. Claims 1, 12, 19, 32, 33 and 35 have been amended as requested by the applicant.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7, 8, 18, 19 and 32-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Schultz (US 6,180,415).

Regarding claims 1, 2 and 32, Schultz discloses determination of a dynamic property of a fluid volume (col. 45 lines 46-55) in a small volume device selected from the group consisting of an array chip, array plate and array slide (col. 14 lines 50-59; examiner interprets microarray as being equivalent to array plate), comprising determining the distribution or location or both of at least one resonance light scattering particle in the fluid volume by detecting light scattered from

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the at least one resonance light scattering particle (col. 9 lines 18-26; PRE stands for plasmon resonance entities). Schultz further discloses the property determined is the fluid flow rate (col. 45 lines 46-55).

Regarding claim 3, Schultz discloses the property determined is particle distribution in the fluid volume (col. 9 line 23).

Regarding claim 4, Schultz discloses probes are present in the fluid volume and the particle distribution is indicative of the distribution of the probes in the fluid volume (col. 9 line 24). The particles attached to a bonding site act as a probe in the fluid volume.

Regarding claim 5, Schultz discloses the distribution of probes is on a solid phase surface³ (col. 14 line 51).

Regarding claims 7 and 35, Schultz discloses the dynamic property is a flow pattern in a device or portion of a device, the device being an article of manufacture including one or more channels or reservoirs for fluid (col. 45 lines 50-55). The determination of a flow pattern requires either a reservoir with the fluid flowing within the reservoir or a channel with the fluid flowing through the channel thus the presence of a reservoir or channel is inherent in any measurement of a flow pattern within the broadest reasonable interpretation of the terms reservoir and channel.

Regarding claim 8, Schultz discloses the dynamic property is fluid mixing being evaluated in one or more portions of the device or through the entire device, the portions being selected from the group consisting of a mixing chamber, a port, a flow channel, a pump, a valve, and a flow channel intersection (col. 49 lines 56-65).

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Regarding claims 18, 33 and 34, Schultz discloses the at least one resonance light scattering particle comprises a plurality of distinguishable resonance light scattering particles (col. 49 lines 56-65).

Regarding claim 19, Schultz discloses the plurality of distinguishable resonance light scattering particles is used to analyze mixing of fluids from two different sources (col. 49 lines 56-65). The different cells discloses in Schultz are equivalent to different fluids. The term fluid is defined as tending to flow or conform to the outline of its container. Animal cells conform to the outline of their container due to their flexible outer membrane and mostly liquid interior.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US 6,180,415) in view of Tateiwa (US 5,444,529).

Schultz teaches the invention as claimed but lacks specific reference to drying. Tateiwa teaches that the light source incident upon the fluid sample will cause the fluid to evaporate, thus the fluid would dry on the surface (col. 2 lines 11-27). It would have been obvious to one of

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ordinary skill in the art at the time the invention was made that the light source of Schultz could perform the same evaporative function as the light source in Tateiwa for the purpose of determining the surface tension of the fluid by the size and shape of the portions of fluid as the surrounding fluid evaporates.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US 6,180,415).

Schultz teaches the invention as claimed but lacks reference to specific volumes. Schultz does state that individual cells and groups of cells can be examined by the same device (col. 45 lines 22-49). Cells are known to have volumes within the claimed ranges. For example, white blood cells have volumes on the order of a nanoliter (nL) and red blood cells have volumes on the order of a picoliter (pL). One might examine a single cell to observe cell division (Schultz, col. 45 line 26). One might examine a larger quantity of cells to observe cells in circulation (Schultz, col. 45 line 45). Therefore the number of cells examined determines the volume of fluid in the device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Schultz fluid volume fall within the claimed ranges as suggested by Schultz for the purpose of examining either individual cells for the smallest claimed volume (10 pL to 10 nL) or a large group of cells for the largest claimed volume (200 nL to 2 μ L).

Response to Arguments

Applicant's arguments, see Amendment, filed March 20, 2006, with respect to the rejection(s) of claim(s) 1 and 32 under Tateiwa have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schultz. Applicant argued the particles in Tateiwa were not resonance particles. The examiner agrees and the Schultz reference has been used to teach the newly amended claim limitations.

Applicant's arguments, see Amendment, filed March 20, 2006, with respect to the objection to the drawings have been fully considered and are persuasive. The objection of the drawings has been withdrawn. The applicant amended the drawings to overcome the objection.

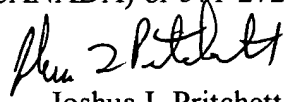
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joshua L Pritchett
Examiner
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